

Notice of Allowability

Application No.

10/072,043

Examiner

Jin-Cheng Wang

Applicant(s)

PRIEM, CURTIS R.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/10/2006.
2. ☒ The allowed claim(s) is/are 1-6, 12, 13, 16-20, 24-28, 33-36, 39 and 41-43 and 46-50.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Reasons for Allowance

1. The following is an examiner's statement of reasons for allowance of claims 1-6, 12-13, 16-20 and 24-25 in the amendment of 4/10/2006: Nothing in the prior art anticipates or suggests, *"a central processing unit transfers to the graphics controller only the address for the font array, the index for the character in the font array, an x-value indicating a horizontal position for the character and a y-value indicating a vertical position for the character"* in "a system for rendering a character in a font, the system comprising: a first memory having stored therein a data structure, the data structure including a plurality of font arrays; and a graphics controller coupled to the first memory, the graphics controller accessing a font array included in the data structure, the graphics controller comprising a first register for holding glyph information for a character in the font wherein the graphics controller reads the glyph information from the first memory into the first register, a second register that specifies an address for the font array for the font wherein the graphics controller locates the font array using the address, and a third register that contains an index to the character in the font array wherein the graphics controller locates the glyph information for the character in the font array using the index, wherein width and height information for the character is located in the font array using the address and the index in combination, wherein the size of the character is determined according to which of the font arrays is selected, and wherein for the graphics controller to render the character, a central processing unit transfers to the graphics controller only the address for the font array, the index for the character in the font array, an x-value indicating a horizontal position for the character and a y-value indicating a vertical position for the character" set forth in the base claim 1.

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2. The cited prior art Lobodzinski U.S. Patent No. 5,734,873 in view of U.S. Patent No. 5,999,199 disclose that the text engine reads through the string of character indexes and width vectors, **calculates the address of the character**, updates the X-coordinate in the viewport 58 and instructs the BLT engine 50 to perform a screen-to-screen color expanded BLT of the monochrome image. The address registers listed in Table 1 include a TXE Font Address register, the TXE String address register, TXE height register and TXE character count register. The cited references disclose the text engine calculates the address information for these registers, and thus teach a first register for holding glyph information for a character in the font including one of the TXE address registers for holding glyph information for a character in the font. The cited references disclose a TXE Font address register that specifies an address for the font array for the font. Lobodzinski further discloses a third register that contains an index to the character in the font array (TXE String address register contains linear dword address of character indexes and width vector for string to be drawn. The cited reference teach the character width and height information is specified using the font address and the character indexes wherein the character indexes point to the locations of the image lines for the character to be drawn and thus specifies the character height information and the character width information is specified in the address FA. Therefore, the cited references teach that width and height information for the character is located in the font array using the address and the index. Thus, the cited reference teach “wherein width and height information for the character is located in the font array using the address and the index in combination, wherein the size of the character is determined according to which of the font arrays is selected.” The cited references teach the text engine reads through the string of character indexes and width vectors and calculates the address of the character and therefore

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teaching loading/reading from the first memory into the first register because character glyph information are located in any of the text engine registers. Finally the cited references disclose a bounding box having the background color is defined in the register file which is part of a graphics controller. However, the cited references failed to teach the claim limitation of “*a central processing unit transfers to the graphics controller only the address for the font array, the index for the character in the font array, an x-value indicating a horizontal position for the character and a y-value indicating a vertical position for the character.*” It is clear that the claim invention provides for a plurality of font arrays to be provided within a memory of a computer system and the system while incorporating the above feature has the advantage that the number of transfers from the CPU is significantly reduced.

3. The following is an examiner’s statement of reasons for allowance of claims 26-28, 33-36, 39, 41-47 in the amendment of 4/10/2006: Nothing in the prior art anticipates or suggests, “*a central processing unit transfers to the graphics controller only the address for the font array, the index for the character in the font array, an x-value indicating a horizontal position for the character and a y-value indicating a vertical position for the character*” in “a method for rendering a character in a font, the method comprising: accessing, with a graphics controller, a data structure located in a first memory, the data structure including a plurality of font arrays, wherein the font arrays comprise a first font array for characters and a second font array for the characters, wherein the size of the font arrays in the first font array is different from the size of the font characters in the second font array; the graphics controller selecting one of the first and second font arrays using an address specified in a first register of the graphics controller such that the size of a character in the font is determined according to the address specified; the

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graphics controller reading information for the character in the font from the selected font array, wherein the character is located by the graphics controller in the selected font array using an index contained in a second register of the graphics controller, and wherein the information includes width and height information for the character; and the graphics controller placing the information read from the font array in a third register resident on the graphics controller, wherein the third register also holds glyph information for the character, wherein for the graphics controller to render the character, a central processing unit transfers to the graphics controller only the address for the font array, the index for the character in the font array, an x-value indicating a horizontal position for the character and a y-value indicating a vertical position for the character” set forth in the base claim 26. .

4. The reasons of allowance of the base claim 26 are the same as set forth for the base claim 1.

5. The following is an examiner’s statement of reasons for allowance of claims 48-50 in the amendment of 4/10/2006: Nothing in the prior art anticipates or suggests, “*a central processing unit is required to transfer to the graphics controller only an address for the data structure, an index value for locating the character in the data structure, an x-value indicating a horizontal position for the character and a y-value indicating a vertical position for the character, wherein the graphics controller locates the data structure using the address and locates the character using the index value*” in “a system for rendering characters, the system comprising: a central processing unit; a memory coupled to the central processing unit and having stored therein a data structure, the data structure comprising glyph information for each of a plurality of characters, the data structure also comprising size width information and size height information for each of

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the characters; and a graphics controller coupled to said memory; wherein the size width information and the size height information for a character to be rendered are read by the graphics controller from the data structure to a register that resides on the graphics controller, wherein the register also contains glyph information for the character read by the graphics controller from the memory, the graphics controller using the glyph information to render the character, wherein for the graphics controller to render the character, a central processing unit is required to transfer to the graphics controller only an address for the data structure, an index value for locating the character in the data structure, an x-value indicating a horizontal position for the character and a y-value indicating a vertical position for the character, wherein the graphics controller locates the data structure using the address and locates the character using the index value” set forth in the base claim 48.

6. The reasons of allowance of the base claim 48 are the same as set forth for the base claim 1.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jcw



Kee M. Tung
Primary Examiner